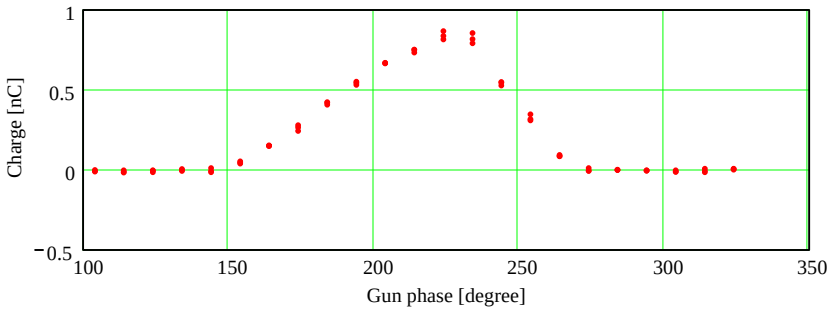
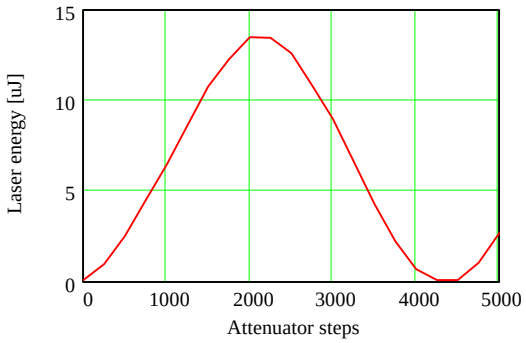
Measured on 06/05/2000

Photoinjector performance

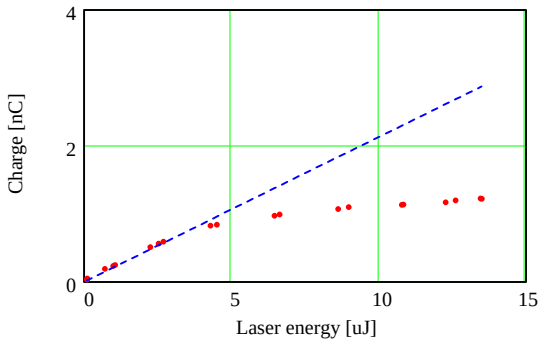
Charge (nC) vs. laser to RF nominal phase (degrees with arbitrary zero point):



Laser energy (microJoules) vs. laser cross polarizer (step number, arbitrary units):



Electron charge (nC) vs. Laser energy on the cathode (microJoules):



Derived quantities:

Maximum available laser energy [microJoules]: MaxLaserEnergy = 13.274

Space-charge limited laser energy [microJoules]: NomLaserEnergy = 4.196

Quantum efficiency [nC/microJoule]: QuantumEfficency = 0.213

Quantum efficiency [percent]: 0.466QuantumEfficency = 0.099

Maximum (space-charge limitted laser energy) charge [nC]: MaxCharge = 0.866

measured at a laser energy of: LaserEnergyMean = 4.655

and at a nominal gun phase of: MaxGunPhase = 223.997

Statistics:

Laser energy standard deviation [%] LaserEnergyStdDev = 4.034

Peak to Peak laser energy jitter [%]: LaserEnergyPeak2Peak = 14.234

Operating point:

Nominal charge [nC]: NomCharge = 0.146

@ Gun Phase [deg]: NomGunPhase = 163.997

Gun Forward Power [Volts]: GunFrwdPower = –1.162